

# Erie County Emergency Services

400 MHz Project Update  
July 26, 2011



## 400 MHz System Overview

- The Erie County 400 MHz Interoperable Communications System was designed to enhance both the day to day operations of our First Responder's as well as increase Interoperability during natural and/or man made disasters.
- System was designed to provide 95% in-street portable radio coverage.



- The original System design is made up of 9 channels:
  - 2 Digital P25 for Erie Co Sheriff's
  - 1 Digital P25 for Emergency Mgmt
  - 1 UHF Police Mutual Aid
  - 1 VHF Police Mutual Aid
  - 1 Countywide Fire Mutual Aid
  - East Aurora Fire Control
  - Angola / Hamburg Fire Control
  - Helmuth / Springville Fire Control

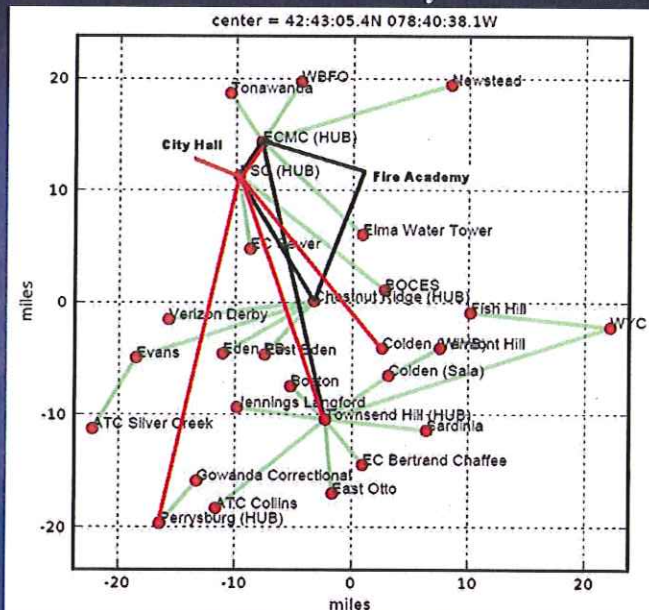


- The 9 Channels encompass 27 sites in and around Erie County
- There are approximately 110 repeaters and 69 voted receivers in the system.
- Each site is connected by microwave for reliability.
- There are 34 microwave hops in system today. Some sites have more than one hop for critical redundancy.





# Erie County PTP Network



**Black – Alcatel**

**Red – Existing PTP**

**Green - New PTP**



## Tower Installations



## Tower Site Status

- 16 of 27 are complete and are being optimized by Motorola Technicians now
- 3 sites in progress now
- 8 sites are cell towers
  - 3 sites have just passed structural review
  - 3 sites are undergoing structural review
  - 2 sites are still in the leasing phases



## Remaining Timeline

- Tower site installation and System Optimization will continue through August and September.
- Coverage testing will begin in early October before the foliage falls off the trees.
- November will be a 30 day testing and system burn-in period. All or any adjustments will be made during this time.
- December will be Final System Acceptance
- January of 2012 – Go Live!





## Additional Systems

- Through the use of Erie County Capital Projects funds we were also able to add 3 systems for County Local Government use (i.e. B&G, Highways and Probation) and a MED Repeater System to replace the old VHF simplex channel operation and meet the new narrowbanding mandate from the FCC.



## MED System Concept of Operation

- UHF MED Channels will become primary use for hospital contact and medical direction throughout the County.
- VHF MED Channels such as MERS 325, 340, 715, 175, etc. will not be discontinued but will become secondary in use. Note that some of these frequencies are considered statewide interoperable channels and must be maintained in the future.



## MED System Overview

- MED System design and equipment procurement completed last year. FCC Licenses pending due to Canadian rejections. Since we have been rejected 3 times we have requested on-air testing with the FCC and Industry Canada.
- Concept of Operation was approved by the NYS EMS Office. Letter of Support filed with the FCC and APCO.
- Hospitals have procured radio equipment with grants and internal funds.



## MED System Timeline

- Hospital equipment installation will commence once the FCC Licensing is approved.
- System will not be implemented until 2012 after the initial 400 MHz System is on-line.
- Extensive training will be conducted with both hospital staff and EMS personnel in person and on-line via webinars. We are also going to offer a Train the Trainer program as well.



## MED System Concept of Operation

- New MED System will consist of:
  - MED-32 in Niagara/Orleans County
  - MED-42 in Northern Erie County
  - MED-52 will be an 8 site countywide simulcast
  - MED-62 in Southern Erie County
  - MED-92 for Mutual Aid contact with MERS
  - MED TAC-1 and MED TAC-2
    - For on-scene EMS/MCI Coordination



## VHF Hi-Band Fire Operations

- There were two "islands" left in the county that were not addressed under the previous 400 MHz plan.
- Orchard Park Fire Control
- City of Lackawanna Fire Department



## Orchard Park Fire 400 MHz System

- Implemented a single site 400 MHz cross-band repeater in Orchard Park for Orchard Park Fire Control.
- Frequency was allocated from Niagara County under a co-licensing or sharing agreement.
- They also have 3 Fire Ground channels.



## Lackawanna Fire 400 MHz Upgrade

- Worked with Emergency Services and the Buffalo Fire Department Communications Division to move the City of Lackawanna Fire Department to 400 MHz.
- Lackawanna was granted a single site simplex operation license.
- License again was obtained with the cooperation of Niagara County for frequency sharing.
- System operational as of 9/17/10.





## Amherst Fire Control Upgrade

- Request from Amherst Fire Control to assist with the replacement of their legacy equipment and implement a new 400 MHz system with improved coverage and reliability was approved.
- System design has been completed and approved by their committee
- Additional Homeland Security funds were made available to Erie County to augment existing Amherst funds to cover this project.



## Cattaraugus Indian Reservation VFD

- Has implemented their own 400 MHz repeater as a temporary solution to improve communications until the Erie County system is operational. Frequency was allocated from Niagara County under a co-licensing or sharing agreement.
- This repeater is currently cross-banding to the Helmuth Fire Control Low Band System via a Motobridge device which is part of the 400 MHz Interoperable Communications System.



## Genesee County Interoperability

- 400 MHz gateway in to the Genesee County 800 MHz trunked system has been in use for about one year.
- System has been successfully utilized on several occasions to support actual field operations on both sides of the county line.
- Expanded use to cover all Public Safety disciplines (police, fire & ems) under review



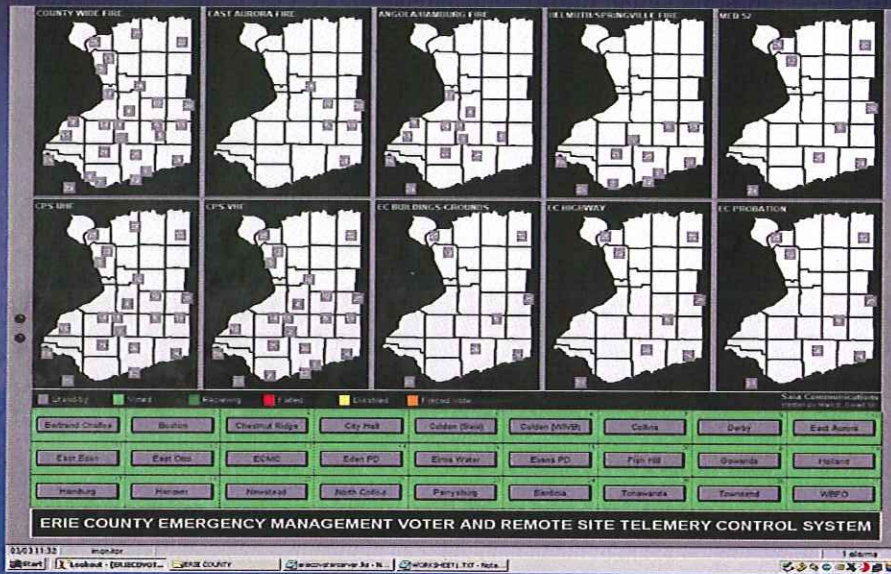
## SCADA Monitoring System

- Since the original 400 MHz System was designed we have identified a need to be able to remotely monitor and control various critical operations of the 400 MHz equipment.
- This will allow remote monitoring and control of all tower sites for security, fire, utility power, generator power, equipment problems, etc. in order to offer expedited trouble shooting for any field related issues. System will be monitored 24/7 by Emergency Services Communication





## Monitoring System Screen Preview



## Next Steps

- Continuance of:
  - Site leasing process / Structural Studies
  - Equipment installation
  - System Optimization in the field
  - Coverage Testing
  - System Acceptance
  - Training



## Next Steps

- Continue to work with individual dispatch centers about integration of 400 MHz equipment
- Continue working with individual Fire Controls and Fire Chief's Council's or Responsible Parties for setting radio policy and procedures.
  - Channel usage policy
  - Emergency or Man Down Activations
  - Equipment channel & zone layout



Questions may be addressed to:

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Thank You for your continued  
support!

